

Application No.: 09/602,688  
Applicant: Lai and Wang  
Filed: June 23, 2000  
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PATENT  
Attorney Docket No.: MEDIN1400  
(023161-2401)

### REMARKS

Courtesies extended to Applicant and Applicant's representative during the personal interview on October 16, 2001 are acknowledged with appreciation.

In accordance with the present invention, there is provided a new class of modified NSAIDs which cause a much lower incidence of side-effects than are typically observed with unmodified NSAIDs due to the protective effects imparted by modifying the NSAIDs as described herein. There are a number of advantages provided by modified NSAIDs according to the invention including:

- (i) reduced irritant effects (e.g., contact irritation) of NSAIDs, and
- (ii) enhanced tissue delivery of the drug as a result of a decrease in net charges on the molecule, particularly for acidic NSAIDs such as naproxen, aspirin, diclofenac and ibuprofen, thereby reducing the quantity of material which must be delivered to achieve an effective dosage.

By the present communication claims 1, 3, 5, 6, 8, 10, 11, 13, 15, 16, 18, 20, 21, 25, 27-29, 31, and 32 have been amended, and claim 34 has been added to define Applicant's invention with greater particularity. In addition, claim 4 has been cancelled without prejudice. Thus, upon entry of the amendments set forth herein, claims 1-3 and 5-34 will be pending.

The rejection of claims 1-33 under 35 U.S.C. 112, second paragraph, for allegedly failing to properly define the invention, is respectfully traversed. It is respectfully submitted that claims 1-33 clearly define the invention and that those skilled in the art can readily identify the scope of the claims. Nonetheless, to reduce the issues and expedite prosecution, claims 1, 6, 8, 11, 13, 16, 18, 25, 27-29, 31, and 32 have been amended as discussed at the personal interview to define Applicant's invention with greater particularity. The Examiner's suggestion of acceptable alternative claim language is acknowledged with appreciation. Thus, it is respectfully submitted that this rejection does not apply to the claims as amended. Accordingly reconsideration and withdrawal of the rejection under 35 U.S.C. 112, second paragraph are respectfully requested.

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The rejection of claims 1-33 under 35 U.S.C. 103(a) as allegedly being unpatentable over Graham (*Clin. Pharmacol. Ther.*, 1985, p. 66) or Kaplan-Machlis (*Ann. Pharmacother.* 1999, 33:979), is respectfully traversed. Applicants' invention, as defined for example by claim 1, distinguishes over Graham and Kaplan-Machlis by requiring a compound having the structure:

## X-L-Z

wherein:

X = a non-steroidal anti-inflammatory drug (NSAID),

L = a covalent bond, a linker, or a spacer,

Z = a sulfur-containing functional group containing a substituted or unsubstituted hydrocarbyl moiety, wherein the sulfur-containing functional group is sulfoxide, sulfonate, reverse sulfonate, sulfonamide, reverse sulfonamide, sulfone, sulfinatate, or reverse sulfinatate.

Neither Graham nor Kaplan-Machlis disclose or suggest such a compound. Instead, Graham and Kaplan-Machlis merely describe the effect of various unmodified NSAID's on gastric mucosa. Indeed, Graham and Kaplan-Machlis only disclose one component (i.e., the "X" component) of the compounds required by claim 1. The compounds required by present claim 1 contemplate more than merely a NSAID. Clearly, Graham and/or Kaplan-Machlis simply do not disclose or suggest the modified NSAID compounds contemplated by the present invention. Thus, it is respectfully submitted that the rejection of claims 1-33 under 35 U.S.C. 103(a) is not properly applied. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

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In view of the above amendments and remarks, prompt and favorable action on all claims are respectfully requested. If any matters remain open after consideration of this response, the Examiner is invited to contact the undersigned at the telephone number set forth below so that a prompt disposition of this application can be achieved.

Respectfully submitted,

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Appendix

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